COLLIDER-ACCELERATOR DEPARTMENT

Title: OSH Initial Assessment Review for Collider-Accelerator Department Offices

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Approvals

Signature on File Date:_____

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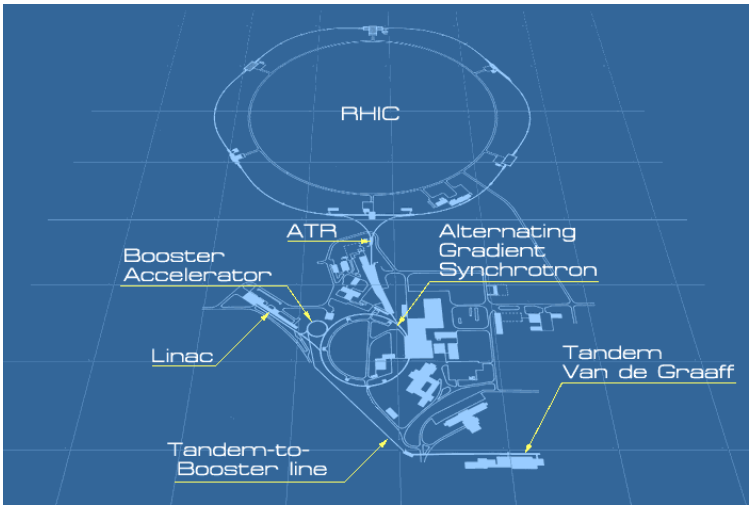
Collider-Accelerator Department Chairman

(Indicate additional signatures)

Y	N		
[]	x	FS Representative:	Date:
[]	x	Radiological Control Coordinator:	Date:
[]	x	Chief ME:	Date:
[]	x	Chief EE:	Date:
x	[]	ESH Coordinator: Signature on File	Date:
[]	x	QA Manager:	Date:
[]	x	Other:	Date:

BROOKHAVEN NATIONAL LABORATORY
INITIAL ASSESSMENT FORM

ID:	C-A-OSH-OFF	Revision 00	
Work Area Name:	C-AD Office Facilities		
Work Area Description:	AGS, LINAC, TVDG, Booster and RHIC Office Facilities.  		
Dept./Div.:	Collider-Accelerator Department (C-AD)		
Dept. Code:	AD		
Building(s):	817, 901A, 911, 912, 918, 919A, 919B, 922, 923, 925, 926, 928, 929, 930, 933, 933A, 939, 940, 958, 975, 1002A, 1002D, 1004A, 1005S, 1006A, 1006C, 1006D, 1008A, 1008D, 1010B.		
Point of Contact:	Refer to C-AD Building Manager Listing http://www.cadops.bnl.gov/AGS/Accel/SND/buildingmanagers.htm		
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Initial Release Date:	8/05/03		

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1. General Information for Collider-Accelerator Office Areas

The Collider-Accelerator Department (C-AD) offices are primarily used for administrative, engineering and group interfacing activities (e.g. group meetings, work planning tasks), which support accelerator operations. Personnel utilizing these offices consist of administrative, technical and scientific staff. To support the operation of the C-AD facility, office space is provided throughout the C-AD complex. All C-AD offices are properly equipped to support personnel in performing their assigned tasks, e.g. phones, computers, work tables/desks. There are five (5) primary worker occupational safety and health hazards that directly influence C-AD office area activities. These hazards are identified below and are further broken down within each category.

2. Detailed Process and Hazard Descriptions for Accelerator Office Areas

A. HOUSEKEEPING HAZARDS

The C-A Department is committed to maintaining a quality housekeeping program that provides a safe and healthy environment for its employees and the community. The intent is to maintain C-A Department facilities in a manner that minimizes loss to persons or property and maximizes operations. Housekeeping hazards pose only minor on-site impact potential and negligible off-site impact potential.

B. WORKING ENVIRONMENT HAZARDS

Within each office area indoor air quality is a key component to the health of occupants. Engineering and administrative controls (e.g. windows, air conditioning, heating systems) are designed to address the indoor air quality issues.

Occupational ergonomic-related injuries are typically caused by the improper fit of the work area, equipment, and practices of the individual. Proper lighting, furniture and computer placement, and location of shelving and files are all important elements within the office area.

In addition to internal office areas, there are hazards associated with parking lots, walkways leading to the offices.

C. FLAMMABLE OR COMBUSTIBLE MATERIAL HAZARDS

The personnel risks associated with the fire hazard are considered low due to the fire detection/suppression process and systems currently in place at BNL. This includes but is not limited to type of building construction, fire extinguishers, available exits, fire detection systems, and fire alarm systems within C-A.

D. ELECTRICAL ENERGY HAZARD

Electrical hazards pose only minor on-site impact potential and negligible off-site impact potential.

E. HAZARDOUS OR TOXIC MATERIAL HAZARDS

C-A office areas usually don't contain chemicals. If chemicals are stored within an office area, the chemicals are labeled, inventoried and stored in accordance with BNL Chemical Management System requirements. Material Safety Data Sheets are available to office personnel.

3. Controls in-Place or Planned Controls

A. HOUSEKEEPING HAZARDS

Possible Consequences:
- Physical injury
- No impact to public

Potential Initiators:
- Poor housekeeping in office areas.

Hazard Mitigation:
- Maintaining a clean, orderly office area free from recognizable hazards.

B. WORKING ENVIRONMENT HAZARDS

Possible Consequences:
- Physical injury
- No impact to public

Potential Initiators:
- Indoor Air Quality
- Office equipment/furniture layout (ergonomics)
- Condition of parking lots, walkways, landings

Hazard Mitigation:
- Heating/ventilation/air conditioning systems properly maintained
- Equipment/ furniture layout is to consider ergonomic design
- Maintenance of pavement, walkways, railings, landings, e.g. snow removal, repairs
- Maintenance of offices, e.g. painting, replacing wet/damaged ceiling tiles

C. FLAMMABLE OR COMBUSTIBLE MATERIAL HAZARDS

Possible Consequences:
- Loss of life or severe/minor physical injury
- Fires resulting in damage to office facilities
- Impact on the accelerator program due to fire-related interruptions
- Insignificant impact on the environment due to releases as a result of fire
- No impact to public

Potential Initiators:
- Damaged or improperly connected electrical devices
- Failure to respond to fire alarms

Hazard Mitigation:
- Protection/detection systems for office areas
- Training
- Strategically located exits and audible alarms
- On-site fire/rescue organization
- Emergency planning and drills

D. ELECTRICAL ENERGY HAZARD

Possible Consequences:
- Physical injury
- No impact to public

Potential Initiators:
- Unsafe practices

Hazard Mitigation:
- Appropriate training

E. HAZARDOUS OR TOXIC MATERIAL HAZARDS

Possible Consequences:
- Accidental exposure leading to personnel injury
- No impact to public

Potential Initiators:
- Unsafe practices for handling hazardous materials

Hazard Mitigation:
- Appropriate training

4. Training Requirements

A. HOUSEKEEPING HAZARDS
- General Employee training (GET)

B. WORKING ENVIRONMENT HAZARDS
- General Employee training (GET)

C. FLAMMABLE OR COMBUSTIBLE MATERIAL HAZARDS
- General Employee training (GET)

D. ELECTRICAL ENERGY HAZARD
- General Employee training (GET)

E. HAZARDOUS OR TOXIC MATERIAL HAZARDS
- General Employee training (GET)

5. Regulatory Determination of Process

(Identify Applicable OPMs; See OPM 1.10.4.a, Flow Down Matrix for Higher Level Documents)

A. HOUSEKEEPING HAZARDS

- C-A Housekeeping Policy

B. WORKING ENVIRONMENT HAZARDS

- SBMS Ergonomics, Occupational
- SBMS Indoor Air Quality

C. FLAMMABLE OR COMBUSTIBLE MATERIAL HAZARDS FIRE HAZARDS

- 1.9 Fire Safety Program
- Compliance with the Life Safety Code, NFPA 101, Chapters 1-6

D. ELECTRICAL ENERGY HAZARD

- Not applicable

E. HAZARDOUS OR TOXIC MATERIAL HAZARDS

- Not applicable

6. Assessment from Workers Health Surveillance

(Review Injury Statistics for Area From SHSD Spread Sheet And Injury Report)

Hazard Description	1 Injury/Illness Description	3 Number of Injuries/Illness 2000-2002	4 Number of Critiques for year 2000-2002	5 Number of Occurrences for year 2000-2002	6 Injury Sum add columns 3,4 and 5
Housekeeping Hazards	0	0	0	0	0
Working Environment Hazards	Slip on Ice Walking surface Injured hand Injured wrist (carpal tunnel) Injured arm Injured leg Injured elbow Fractured rib Injured elbow Sprained thumb Strained lower back	2 4 1 1 1 1 1 1 1 1 1	0	0	15
Fire Hazards		0	0	0	0
Electrical Hazards		0	0	0	0
Chemical Hazards		0	0	0	0

7. Risk Assessment

(Using Risk Matrix, Table 1)

Hazard ID	Risk Level Scale
Housekeeping Hazards	**2**
Working Environment Hazards	**2**
Fire Hazards	**2**
Electrical Hazards	**1**
Chemical Hazards	**1**

8. Risk Metrics

List hazards; rank them using Tables 1 and 2; multiply the scores to get a Relative Risk Level.

Hazard ID	1	2	3	4	
	Scope Scale	Risk Level Scale	Compliance Scale	Injury Sum	Relative Risk Level, product (0=1) of columns 1-4
Housekeeping Hazards	2	2	1	0	4
Working Environment Hazards	2	2	1	15	60
Fire Hazards	2	2	1	0	4
Electrical Hazards	2	1	1	0	2
Chemical Hazards	2	1	1	0	1

9. Hazard Minimization Opportunities for Accident Prevention

(Select the Two highest Overall Risk Levels from Section 8)

1. Working Environment Hazards
2. Housekeeping Hazards

Employee awareness of safety was increased through participation in Laboratory Safety Day. Participation is planned to continue if Laboratory Safety Day is adopted as an annual event at BNL. C-AD has instituted an Occupational Safety and Health (OSH) management system. Several features of the OSH management system include:

- Creation of a Worker Occupational Safety and Health Committee
- An annual Management Review similar to ISO 14001
- Annual audit by the QA Group against OSH requirements in SBMS and requirements set down in Department level OSH management documents

A review of ergonomics by the laboratory, FY 2003 BNL Self-Assessment (BAO Observing) of the BNL Ergonomics Program, was performed at C-AD. This review increased the awareness of the C-A ESHQ staff to the potential ergonomic problems, which may occur in the department.

Many Working Environment Hazard injuries have been associated with cold weather related outdoor surfaces. A proactive approach has been initiated by C-A. Improved communications been Plant Engineering and C-A has been established to address these issues.

Good housekeeping practices apply to all office areas. Housekeeping is a direct responsibility of all employees, and each employee is held accountable to do the things necessary to implement an effective housekeeping program. The goal at C-A is to provide and maintain a safe working environment.

10. Injury/Illness Reduction Initiatives

Hazard ID	New OPM, Inspection Process, or Other Mechanism	ATS , ADS Number or Reference
Working Environment Hazards	Review ergonomic and grounds conditions issues at C-A through the Tier I process. C-A ESHQ to review with Plant Engineering each autumn snow/ ice removal priorities for the coming winter.	**9.4.1 Procedure for Conducting Safety Inspections** CA Family ATS-1514.2.6
Housekeeping Hazards	Review housekeeping issues at C-A through the Tier I process.	**9.4.1 Procedure for Conducting Safety Inspections**

The Risk Matrix (Table 1)

Consequence Level

High	Low Risk – Acceptable *(Risk level 2)*	Medium Risk- Unacceptable *(Risk level 3)*	High Risk- Unacceptable *(Risk level 4)*	High Risk- Unacceptable *(Risk level 4)*
Medium	Extremely Low Risk - Desirable *(Risk level 1)*	Low Risk – Acceptable *(Risk level 2)*	Medium Risk- Unacceptable *(Risk level 3)*	High Risk- Unacceptable *(Risk level 4)*
Low	Extremely Low Risk - Desirable *(Risk level 1)*	Extremely Low Risk - Desirable *(Risk level 1)*	Low Risk – Acceptable *(Risk level 2)*	Medium Risk- Unacceptable *(Risk level 3)*
Extremely Low	Extremely Low Risk - Desirable *(Risk level 1)*	Extremely Low Risk - Desirable *(Risk level 1)*	Extremely Low - Desirable *(Risk level 1)*	Low Risk – Acceptable *(Risk level 1)*
	Extremely Unlikely (<10^{-4}/y)	**Unlikely (Between 10^{-4}/y and 10^{-2}/y)**	**Anticipated(Note) Medium (Between 10^{-2}/y and 10^{-1}y)**	**Anticipated Note) High (Above 10^{-1}y)**

Likelihood of Occurrence →

Definition of Consequence Levels

- Extremely Low: Will not result in a significant injury or occupation illness or provide a significant impact on the environment.

- Low: Minor onsite with negligible or no offsite impact. Low risk events are events that may cause minor injury or minor occupational illness or minor impact on the environment.

- Medium: Medium risk events are events that may cause considerable impact onsite or minor impact offsite. Medium risk events may cause deaths, severe injuries or severe occupational illness to personnel or major damage to a facility or minor impact on the environment. Medium risk events are events from which one is capable of returning to operation.

- High: High-risk events may cause serious impact onsite or offsite. High-risk events may cause deaths or loss of facility/operation. High-risk events may cause significant impact on the environment.

Note: 10CFR835 may require limits that are more stringent for anticipated events.

Risk Metrics (Table 2)

List Hazard, Rank them using the scale below, four being the <u>most</u> significant. Add the scores to get a Graded Risk Assessment.

Scale	Scope of Hazard Impact Scale	Outcome of Compliance Failure Scale
1	Unnoticeable (Low)	Minimal
2	Only one work area (Low)	Record keeping, warning only
3	Organization wide (Moderate)	Department Penalty
4	Impact Outside of the organization (High)	Civil /Criminal Penalty, fine